



CLIENT NAVSUP

SUBJECT Implementation Schedule (Plan of Actions and Milestones) – Red Hill Assessment

SHEET NO. 1 of 2

PROJECT NO. 220064.00-REDH

DATE 01 Feb 2022

BY ERM_OA_TC

CHECKED BY PBS

Objectives:

- Assess the Facility operations and system integrity to safely defuel the Bulk Fuel Storage Tanks.
- Assess operations and system integrity of the Facility to determine design and operational deficiencies that may impact the environment and develop recommendations for corrective action.

| No. | Activity | Start | End | Objectives / Outcomes | Status |
|-----|--|-----------|-----------|--|-------------|
| 1 | Assessment Preparation | 1/17/2022 | 1/31/2022 | Gather data and become familiar with the facility | |
| 1.1 | Initial Facility Walkdown | 1/18/2022 | 1/28/2022 | Develop an understanding of the facility and document observations | Complete |
| 1.2 | Initial Document Review | 1/17/2022 | 2/4/2022 | Review facility records, drawing, calculations, specifications, data, previous studies and evaluations, incidents and incident reports, to identify key inputs for the assessments | In progress |
| 1.3 | POAM | 1/17/2022 | 1/24/2022 | Develop a POAM | Complete |
| 1.4 | Safety Plan | 1/17/2022 | 1/24/2022 | Prepare a job hazard analysis for SGH staff | Complete |
| 2 | Safety and Risk Management | 1/31/2022 | 3/14/2022 | Safety and operational risk assessment | |
| 2.1 | Process Hazard Analysis (PHA) using Hazard and Operability (HAZOP) method and additional appropriate methods (onsite activity). | 2/7/2022 | 2/11/2022 | A cross functional team will review process P&IDs in depth to identify hazards and make recommendations to mitigate those hazards. Results of HAZOP will be incorporated into the overall final project report. | Scheduled |
| 2.2 | Occupational Safety and Health Administration's (OSHA) Process Safety Management of Highly Hazardous Chemicals (29 CFR 1910.119) Field Inspection Checklist (onsite activity). | 2/14/2022 | 2/21/2022 | Assessor will complete OSHA checklist for process safety elements (records, interviews, etc). | |
| 2.3 | Complete the U.S. Environmental Protection Agency (EPA) Spill Prevention, Control and Countermeasure (SPCC) Field Inspection and Plan Review Checklist (onsite activity). | 3/21/2022 | 3/25/2022 | Assessor will complete EPA SPCC checklist for spill prevention measures; above ground storage and all piers. | |
| 2.4 | Conduct personnel interviews with NAVSUP, NAVFAC operations, maintenance, engineering, etc. | 2/14/2022 | 2/18/2022 | To validate field observations and reconcile discrepancies, the assessor will interview relevant operational engineering and maintenance personnel. | Scheduled |
| 2.5 | Identification of Operational Deficiencies | 1/31/2022 | 3/7/2022 | Compile list of operational deficiencies. | |
| 2.6 | Environmental and Cultural Impacts | 1/31/2022 | 3/7/2022 | Interview NAVFAC environmental division personnel. | |
| 3 | Structural Integrity Assessment | 1/31/2022 | 4/11/2022 | Evaluation of critical structures | |
| 3.1 | Modeling of Structures and Tanks | 1/31/2022 | 3/18/2022 | Develop finite element models and set up calculation spreadsheets for typical structures to be analyzed | |
| 3.2 | Analysis of Structures and Tanks | 2/7/2022 | 4/1/2022 | Analyze modeled structures and tanks | |
| 3.3 | Postprocessing of Structural Analyses | 2/14/2022 | 4/11/2022 | Postprocess analyses results and complete QA/QC checks | |
| 3.4 | Structural Retrofit Concepts | 2/14/2022 | 4/18/2022 | Develop sketches and markups showing retrofit concepts as required | |
| 4 | Mechanical Integrity Assessment | 1/31/2022 | 4/11/2022 | Fitness for service (FFS) evaluation of piping and equipment | |
| 4.1 | Modeling of Piping and Equipment with Defects | 1/31/2022 | 3/18/2022 | Develop finite element models and set up calculation spreadsheets for typical piping sections and equipment / tanks to be evaluated based on defects noted in the inspection reports and observed during the facility walkdown | |
| 4.2 | FFS Analysis of Piping and Equipment with Defects | 2/7/2022 | 4/1/2022 | Perform Level 1, Level 2 and Level 3 FFS analyses as per API 579 | |
| 4.3 | Postprocessing of FFS Analyses | 2/14/2022 | 4/11/2022 | Postprocess analyses results and complete QA/QC checks | |



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|-----|--|-----------|-----------|---|----------|
| 4.4 | Valve and Pump Integrity Evaluation | 2/14/2022 | 4/1/2022 | Evaluate integrity of valves and pumps based on inspection reports and site walkdown observations | |
| 4.5 | Piping and Equipment Retrofit Concepts | 2/14/2022 | 4/18/2022 | Develop sketches and markups showing retrofit concepts as required | |
| 5 | Cost Estimate | 3/7/2022 | 4/18/2022 | | |
| 5.1 | Quantity Takeoff | 3/7/2022 | 4/18/2022 | Develop quantity takeoffs using the structural and mechanical retrofit concepts | |
| 5.2 | Class 4 Cost Estimate | 3/7/2022 | 4/18/2022 | Develop cost estimates for required repairs using the quantity takeoffs for developed retrofit concepts or replacement | |
| 6 | Special Studies | 2/17/2022 | 3/28/2022 | | |
| 6.1 | Response to Stakeholders | 2/17/2022 | 3/28/2022 | Respond to stakeholder questions and comments, as determined, requested and coordinated by the US Government. Stakeholder questions and comments to be provided no later than 3/11/2022. | |
| 7 | Reports | 1/24/2022 | 4/30/2022 | | |
| 7.1 | Interim Assessment Report with Identified Deficiencies (50%) | 2/21/2022 | 3/7/2022 | Identified deficiencies, key assumptions, summary of inputs, methodology, analysis cases, and preliminary evaluation findings, and initial mitigation recommendations. | |
| 7.2 | Pre-Final Assessment Report (75%) | 3/21/2022 | 3/28/2022 | <ul style="list-style-type: none"> - More refined recommendations to address identified design and operational deficiencies in addition to interim report contents - Structural upgrade and mechanical repair recommendations as drawing markups and sketches - Preliminary cost estimates - Implementation plan and recommended schedule | |
| 7.3 | Assessment Report (100%) | 4/18/2022 | 4/25/2022 | Update 75% report incorporating stakeholder comments and to include final results | |
| 7.4 | Weekly Reports | 1/25/2022 | 4/26/2022 | Document progress, areas concerns and weekly plans | |
| 8 | Meetings | 1/19/2022 | 4/30/2022 | | |
| 8.1 | Kickoff Meeting (On-Site) | 1/19/2022 | 1/19/2022 | Introduction and presentation of assessment approach, list of deliverables and schedule to stakeholders | Complete |
| 8.2 | Post HAZOP Stakeholder Meeting (On-Site) | 2/17/2022 | 2/17/2022 | In person project progress presentation to stakeholders (after the HAZOP), updating them on project status and HAZOP | |
| 8.3 | Interim Deficiencies Stakeholder Meeting (On-Site) | 3/10/2022 | 3/10/2022 | At the 50% project completion point present interim deficiencies | |
| 8.4 | Pre-Final Recommendations Stakeholder Meeting | 3/29/2022 | 3/29/2022 | At the 75% project completion point, present the list of Pre-Final Recommendations and progress to date | |
| 8.5 | Out-Briefing Stakeholder Meeting – Draft Assessment Report | 4/19/2022 | 4/19/2022 | Presentation for stakeholders that provides a draft summary of all completed work and communicates all recommendations and estimated costs. | |
| 8.6 | Final Assessment Presentation (On-Site) | 4/26/2022 | 4/26/2022 | Present findings of our studies and recommendations in person after the completion of the final report | |
| 8.7 | Weekly Meetings (Tuesday) | 1/25/2022 | 4/26/2022 | Present progress, areas concerns and weekly plans | |